

LISTING OF THE CLAIMS

At the time of the Action:

Pending Claims: 1-36

After this Response:

Pending Claims: 1-36

Amended Claims: 1, 4, 5, 10 – 19, 23, and 28-36

1. (Currently Amended) A method comprising:

decoding an enhancement layer bitstream without decoding an encoded base layer bitstream from a bitstream of encoded video data, the encoded video data ~~having including an encoded~~ base layer and one or more encoded enhancement layers, the video data having been encoded according to a high HQRB (high quality reference bit-rate);

determining data throughput characteristics of a network coupled to a client computing device;

calculating a new HQRB based on a difference between the data throughput characteristics of the network and a ~~base-layer bit rate of the encoded~~ base layer in the bitstream of encoded video data; and

encoding the decoded enhancement layer bitstream based on the new HQRB to generate a transcoded enhancement layer bitstream for streaming to the client computing device with the not-decoded encoded base layer bitstream.

2. (Previously Presented) The method of claim 1, wherein the encoding substantially optimizes transcoded enhancement layer for streaming with the base layer across the network to the client computing device as compared to streaming of the encoded video data.

3. (Previously Presented) The method of claim 1, wherein the encoded video data is encoded using progressive fine-granularity scalable (PFGS), MA-FGS, or RFGS encoding criteria.

4. (Currently Amended) The method of claim 1, ~~wherein further comprising determining when~~ the data throughput characteristics indicate a relatively low data throughput, and wherein calculating the new HRQB ~~further comprises:~~

~~responsive to identifying the relatively low data throughput, selecting encoding the decoded enhancement layer bitstream with the new HRQB to be having a bit rate lower than the high HRQB in response to the determining the of a relatively low data throughput.~~

5. (Currently Amended) The method of claim 1, ~~wherein further comprising determining when~~ the data throughput characteristics indicate a relatively high data throughput, and wherein calculating the new HRQB ~~further comprises:~~

~~responsive to identifying the relatively high data throughput, encoding the decoded enhancement layer bitstream with selecting the new HRQB to be having a bit rate the same or higher than the high HRQB in response to the determining the of a relatively high data throughput.~~

6. (Previously Presented) The method of claim 1, wherein the encoding further comprises:

determining motion vector(s) from the base layer without decoding an entirety of a bitstream corresponding to the base-layer; and

encoding the enhancement layer bitstream with the determined motion vector(s) to generate the transcoded enhancement layer for streaming to the client computing device.

7. (Previously Presented) The method of claim 1, wherein the method further comprises streaming the transcoded enhancement layer and the base layer across the network to the client computing device.

8. (Previously Presented) The method of claim 1, wherein the method further comprises encoding video data to generate the one or more enhancement layers and the base layer.

9. (Previously Presented) The method of claim 1, wherein the method further comprises determining networking and/or video presentation capabilities of the client computing device, and wherein calculating the new HQRB further comprises formulating the new HQRB based on one or more of the networking and/or video presentation capabilities.

10. (Currently Amended) A computer-readable memory storage medium device encoded with computer-executable instructions that, when executed by a processor, implement operations comprising:

(a) decoding an enhancement layer bitstream without decoding an encoded base layer bitstream from a bitstream of encoded video data, the encoded video data having including an encoded base layer and one or more encoded enhancement layers, the video data having been encoded according to a high HQRB (high quality reference bit-rate);

(b) determining data throughput characteristics of a network coupled to a client computing device and changes to the data throughput characteristics of the network;

(c) calculating a new HQRB based on the data throughput characteristics of the network and a ~~base layer~~ bit rate of the encoded base layer in the bitstream of encoded video data; and

(d) encoding the decoded enhancement layer bitstream based on the new HQRB to generate a transcoded enhancement layer bitstream for streaming to the client computing device with the not decoded encoded base layer bitstream; and

(e) repeating (b) – (d) in response to changes in throughput characteristics of the network.

11. (Currently Amended) The computer-readable memory storage medium of claim 10, wherein the computer-executable instructions for encoding substantially optimize transcoded enhancement layer for streaming with the base layer across the network to the client computing device ~~as compared to streaming of the encoded video data~~.

12. (Currently Amended) The computer-readable memory storage medium of claim 10, wherein the encoded video data is encoded using progressive fine-granularity scalable (PFGS), MA-FGS, or RFGS encoding criteria.

13 (Currently Amended) The computer-readable memory storage medium of claim 10, wherein ~~the data throughput characteristics indicate a relatively low data throughput, and wherein operations for calculating further comprise operations, responsive to identifying the a relatively low data throughput, for selecting the new HQRB to be lower than the high HQRB.~~

14. (Currently Amended) The computer-readable memory storage medium of claim 10, ~~wherein the data throughput characteristics indicate a relatively high data throughput, and wherein operations for calculating the new HRQB further comprise operations responsive to identifying the relatively high data throughput~~ for selecting the new HRQB to be the same or higher than the high HRQB in response to identifying a relatively high data throughput.

15. (Currently Amended) The computer-readable memory storage medium of claim 10, wherein operations for encoding ~~further~~ comprise operations for determining motion vector(s) from the base layer without decoding an entirety of a bitstream corresponding to the base-layer, and for encoding the enhancement layer bitstream with the determined motion vector(s) to generate the transcoded enhancement layer for streaming to the client computing device.

16. (Currently Amended) The computer-readable memory storage medium of Claim 10, wherein the operations further comprise operations for streaming the transcoded enhancement layer and the base layer across the network to the client computing device.

17. (Currently Amended) The computer-readable memory storage medium of claim 10, wherein the operations further comprise operations for encoding video data to generate the one or more enhancement layers and the base layer.

18. (Currently Amended) The computer-readable memory storage medium of claim 10, wherein the operations further comprising operations for determining networking and/or video presentation capabilities of the client computing device,

and wherein calculating the new HQRB further comprises formulating the new HQRB based on one or more of the networking and/or video presentation capabilities.

19. (Currently Amended) A computing device comprising a processor coupled to a memory, the memory being encoded with computer-program instructions executable by the processor to implement operations comprise:

decoding an enhancement layer bitstream from a bitstream of encoded video data, the encoded video data ~~having including an encoded~~ base layer and one or more enhancement layers, the video data having been encoded according to a high HQRB (high quality reference bit-rate);

determining data throughput characteristics of a network coupled to a client computing device;

calculating a new HQRB based on a difference between the data throughput characteristics of the network and a bit rate of the encoded base layer in the bitstream of encoded video data;

and

encoding the decoded enhancement layer bitstream based on the new HQRB to generate a transcoded enhancement layer bitstream for streaming to the client computing device; and

wherein the base layer is not decoded for streaming to the client computing device.

20. (Previously Presented) The computing device of claim 19, wherein the computer-executable instructions for encoding substantially optimizes transcoded enhancement layer for streaming with the base layer across the network to the client computing device as compared to streaming of the encoded video data.

21. (Previously Presented) The computing device of claim 19, wherein the encoded video data is encoded using progressive fine-granularity scalable (PFGS), MA-FGS, or RFGS encoding criteria.

22. (Previously Presented) The computing device of claim 19, wherein the data throughput characteristics indicate a relatively low data throughput, and wherein the operations for calculating the new HRQB further comprise operations, responsive to identifying the relatively low data throughput, for selecting the new HRQB to be lower than the high HRQB.

23. (Currently Amended) The computing device of claim 19, wherein ~~the data throughput characteristics indicate a relatively high data throughput, and wherein~~ the operations for calculating the new HRQB further comprise operations, responsive to identifying ~~the a~~ relatively high data throughput, for selecting the new HRQB to be the same or higher than the high HRQB

24. (Previously Presented) The computing device of claim 19, wherein the operations for encoding further comprise operations for determining motion vector(s) from the base layer without decoding an entirety of a bitstream corresponding to the base-layer; and operations for encoding the enhancement layer bitstream with the determined motion vector(s) to generate the transcoded enhancement layer for streaming to the client computing device.

25. (Previously Presented) The computing device of claim 19, wherein the operations further comprise operations for streaming the transcoded enhancement layer and the base layer across the network to the client computing device.

26. (Previously Presented) The computing device of claim 19, wherein the operations further comprise operations for encoding video data to generate the one or more enhancement layers and the base layer.

27. (Previously Presented) The computing device of claim 19, wherein the operations further comprise operations for determining networking and/or video presentation capabilities of the client computing device, and wherein calculating the new HQRB further comprises formulating the new HQRB based on one or more of the networking and/or video presentation capabilities.

28. (Currently Amended) A computer-readable memory storage computing device comprising processing means in a ~~tangible~~ computer-readable storage medium, the processing means comprising:

means for decoding an enhancement layer bitstream from encoded video data without decoding an encoded base layer bitstream from the encoded video data, the encoded video data having an encoded base layer and one or more encoded enhancement layers, the video data having been encoded according to a high HQRB (high quality reference bit-rate);

means for determining data throughput characteristics of a network coupled to a client computing device;

means for calculating a new HQRB based on a difference between the data throughput characteristics of the network and a ~~base-layer-bit rate of the encoded~~ base layer in the bitstream of encoded video data; and

means for encoding the decoded enhancement layer bitstream based on the new HQRB to generate a transcoded enhancement layer bitstream for streaming to the client computing device with the encoded base layer bitstream.

29. (Currently Amended) The ~~computer-readable memory storage computing~~ device of claim 28, wherein the means for encoding substantially optimizes transcoded enhancement layer for streaming with the base layer across the network to the client computing device as compared to streaming of the encoded video data.

30. (Currently Amended) The ~~computer-readable memory storage computing~~ device of claim 28, wherein the encoded video data is encoded using progressive fine-granularity scalable (PFGS), MA-FGS, or RFGS encoding criteria.

31. (Currently Amended) The computing device of claim 28, ~~wherein the data throughput characteristics indicate a relatively low data throughput, and wherein~~ the means for calculating the new HQRB further comprise, responsive to identifying the a relatively low data throughput, means for selecting the new HQRB to be lower than the high HQRB.

32. (Currently Amended) The ~~computer-readable memory storage computing~~ device of claim 28, ~~wherein the data throughput characteristics indicate a relatively high data throughput, and wherein the means for calculating the new HQRB further comprise, responsive to identifying the relatively high data~~

throughput, means for selecting the new HQRB to be the same or higher than the high HQRB in response to identifying a relatively high data network throughput.

33. (Currently Amended) The computer-readable memory storage computing device of claim 28, wherein the means for encoding comprises:

means for determining motion vector(s) from the base layer without decoding an entirety of a bitstream corresponding to the base-layer; and

means for encoding the enhancement layer bitstream with the determined motion vector(s) to generate the transcoded enhancement layer for streaming to the client computing device.

34. (Currently Amended) The computer-readable memory storage computing device of claim 28, wherein the processing means comprise means for encoding video data to generate the one or more enhancement layers and the base layer.

35. (Currently Amended) The computer-readable memory storage computing device of claim 28, wherein the processing means further comprise means for streaming the transcoded enhancement layer and the base layer across the network to the client computing device.

36. (Currently Amended) The computer-readable memory storage computing device of claim 28, wherein the processing means further comprise means for determining networking and/or video presentation capabilities of the client computing device, and wherein the means for calculating the new HQRB further comprises means for formulating the new HQRB based on one or more of the networking and/or video presentation capabilities.